

**REMARKS**

**I. Correspondence Address**

Further to the Notification of Change of Address filed January 9, 2001, Applicants respectfully request that all future correspondence be sent to the following address:

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**II. Response to Election of Ultimate Species Requirement**

Further to Applicants' election of Group I, claims 1-41, 45, 59-64, 66, 73-78, 80, and 85-87 in the Response filed January 5, 2004, the Examiner required, under 35 U.S.C. § 121, an additional election of a single disclosed species of each components (a)-(d) in the composition previously elected by Applicants for prosecution, which the Examiner alleges to be patentably distinct. Components (a)-(d) are:

- (a) at least one first material comprising at least one radiation curable reactive functional group;
- (b) at least one second material comprising at least one thermally curable reactive functional group;
- (c) at least one curing agent reactive with the at least one thermally curable reactive functional group, the at least one curing agent being selected from aminoplast resins, polyisocyanates, blocked polyisocyanates, triazine derived isocyanates, polyepoxides, polyacids, polyols and mixtures of the foregoing; and
- (d) a plurality of particles selected from inorganic particles, composite particles, and mixtures of the foregoing.

The election requirement is respectfully traversed. However, to be fully responsive, Applicants elect, with traverse, the following single disclosed species of each components (a)-(d):

- (a) a hydroxyl functional polycarboxylate
- (b) a hydroxyl functional polysiloxane
- (c) a polyisocyanate
- (d) a colloidal silica

The elected species is believed to read on at least claims 1-4, 6-41, 45, 59-64, 66 and 73-75 of elected Group I.

Applicants traverse the Election of Species Requirement on the grounds that the Examiner has not shown that there would be a serious burden to examine all of the pending claims together. In fact, the Examiner has already proceeded to examine the pending claims and has already issued rejections in light of the examination, thus failing to show that there is a serious burden in examining all the pending claims together. Accordingly, Applicants respectfully submit that the Election of Species Requirement is improper, and request that it be withdrawn.

If the Examiner chooses, however, to maintain the election of species requirement, Applicants expect that the Examiner, if the elected species is found allowable, to continue to examine the full scope of at least claims 1-41, 45, 59-64, 66, 73-78, 80, and 85-87 to the extent necessary to determine the patentability of these pending claims, i.e., extending the search to a reasonable number of the non-elected species, as is the duty according to M.P.E.P. § 803.02 and 35 U.S.C. § 121.

**III. Rejection Under 35 U.S.C. § 112**

The Examiner rejected claims 14, 15, 45, and 59-61 under 35 U.S.C. § 112, ¶ 2, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Office Action at p. 5.

In regards to claims 14 and 15, the Examiner asserts that “it is not clear how a carbamate group, a urea group, or a urethane group can be a reactive functional group.” *Id.* (emphasis original). The Examiner, without citing to any support, asserts that such groups would be “expected to function as a linking group only.” *Id.* In regards to claims 45 and 59-61, the Examiner asserts, again without support, that “[t]he uncured composition on a substrate fails to provide a ‘coated’ substrate, as understood in the coating technology.” *Id.*

Section 112, second paragraph requires that the claims “particularly point out and distinctly define the metes and bounds of the subject matter that will be protected by the patent grant.” *Id.* A rejection based on this requirement should focus on “whether the claim meets the threshold requirements of clarity and precision.” M.P.E.P. § 2173.02. If the claim, in its entirety, “apprises one of ordinary skill in the art of its scope,” then the claim serves its notice function required by § 112, ¶ 2. *Id.*

Applicants respectfully submit that the claim language recited in claims 14 and 15 is definite, and that these claims apprise those of ordinary skill in the art as to their scope. The Examiner has not provided any support for why Applicants’ recitation of a carbamate group, a urea group, or a urethane group as available reactive functional groups is unclear. Moreover, there is nothing in the record indicating that Applicants

believe a carbamate group, a urea group, or a urethane group would function only as a linking group.

In other words, the Examiner has not provided any explanation as to why it is believed each of those groups would be expected to function only as a linking group. The Examiner has not pointed to anything in the Applicants' specification or in the prior art that would support the Examiner's argument. In fact, the specification is wholly consistent with the claim language recited in claims 14 and 15. For example, at page 22 of Applicants' specification, it specifically highlights a carbamate group as a reactive functional group. Specification at p. 22, lines 13-19. Accordingly, Applicants respectfully submit that the rejection of claims 14 and 15 under § 112, ¶ 2 is improper and request that it be withdrawn.

With regard to claims 45 and 59-61, Applicants appreciate the Examiner's suggestion to add a curing step to the claim language. Applicants respectfully submit, however, that the suggested claim amendment is not necessary. Specifically, the Examiner has not provided any objective evidence that a composition "must be cured, polymerized or hardened in order to provide a 'coating.'" Office Action at p. 5. In fact, Applicants submit that such an interpretation would run counter to the understanding of one skilled in the art. For example, following the Examiner interpretation, wallboard that has been freshly painted would not comprise a "coating" until the paint has cured. Applicants submit that this interpretation is in error, as wallboard that has been painted would have a coating as soon as the paint is applied to it. Thus, Applicants respectfully request withdrawal of the § 112, ¶ 2 rejections of claims 45 and 59-61.

**IV. Rejection Under 35 U.S.C. § 102**

The Examiner rejected claims 1-11, 17-20, 34-37, and 45 under § 102(b) as anticipated by Maag et al. (WO 98/40170). The Examiner (and Applicants herein) refers to U.S. Patent No. 6,333,077, the apparent English language counterpart to WO 98/40170. Applicants respectfully traverse for at least the following reasons.

A rejection under §102 is proper only when the claimed subject matter is identically described or disclosed in the prior art. *In re Arkley*, 455 F.2d 586, 587 (C.C.P.A. 1972). This requires the single prior art reference to teach “every aspect of the claimed invention either explicitly or impliedly.” M.P.E.P. §§ 706.02, 2131. Moreover, “[t]he identical invention must be shown in as complete detail as is contained in the . . . claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 U.S.P.Q.2d 1913, 1920 (Fed. Cir. 1989). Thus, in order to anticipate the claimed invention, a reference must “clearly and unequivocally disclose the claimed compound or direct those skilled in the art to the compound without any need for picking, choosing and combining various disclosures.” *In re Arkley*, 455 F.2d at 587.

The Examiner asserts that Maag discloses Applicants’ composition of claim 1. In particular, the Examiner focuses on Maag’s disclosed system (B), which is asserted as “a radiation curable system wherein the prepolymers or oligomers can be silicone (meth)acrylates.” Office Action at p. 6. However, finding such a disclosure requires inappropriate picking and choosing among various prepolymer or oligomers disclosed in Maag. The Examiner acknowledges this fact with the statement that Maag’s disclosed system (B) “*can be* silicone (meth)acrylates.” Office Action at p. 6 (emphasis added).

Notably, none of the examples disclosed in the Maag reference teaches silicone (meth)acrylate. See col. 12-14.

The Examiner's alternative § 103 rejection, based solely on the Maag reference and the same alleged disclosure of Maag, provides further evidence supporting Applicants' position that the Examiner's § 102 rejection constitute inappropriate picking and choosing. The Examiner stated that "it would have been obvious to one skilled in the art at the time of the invention to include a silicone (meth)acrylate material in system B . . . ." Office Action at p. 6. The Examiner recognizes, as Applicants note above, that Maag's disclosure of silicone (meth)acrylate is one of a variety of prepolymers and oligomers, and therefore, requires suggestion or motivation for a skilled artisan to pick it.

The Examiner's § 102 rejection therefore requires inappropriate picking and choosing from the Maag disclosure. Thus, Maag does not anticipate independent claim 1 or dependent claims 2-11, 17-20, 34-37, 45, and 59-61. Applicants respectfully request withdrawal of the § 102 rejections of claims 1-11, 17-20, 34-37, 45, and 59-61.

**V. Rejections Under 35 U.S.C. § 103**

The Examiner has provided three separate § 103 obviousness rejections. The first obviousness rejection is made in the alternative to the Examiner's § 102 rejection, and is over Maag. The second obviousness rejection is made over Maag in further view of Wilt et al. (United States Patent No. 5,939,491). The last obviousness rejection is made over Maag and in further view of Bilkadi (United States Patent No. 5,104,929). Applicants address each rejection separately below.

To establish a prima facie case of obviousness, three basic criteria must be met. These criteria require that the Examiner show that would have been some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify and combine reference teachings. M.P.E.P. § 2142; *In re Litner*, 458 F.2d 1013, 1016 (CCPA 1972). Additionally, the Examiner must show that there would have been a reasonable expectation that the proposed modification would be successful. *Id.* If any one of the basic requirements is not satisfied, then the Examiner's § 103 rejection is improper.

Importantly, a proper § 103 analysis requires the Examiner to "step backward in time and into the shoes worn by the hypothetical 'person of ordinary skill in the art' when the invention was unknown and just before it was made." M.P.E.P. § 2142. A finding of obviousness "must be based reached on the basis of the facts gleaned from the prior art," while avoiding impermissible hindsight analysis. *Id.*

As explained below, Applicants respectfully assert that the three basic criteria of obviousness have not been met.

**A. Maag**

Applicants respectfully submit that the Examiner has failed to show that Maag suggests or motivates one skilled in the art to include silicone (meth)acrylate from the variety of prepolymers and oligomers disclosed. Rather than showing *both* motivation *and* a reasonable expectation of success, the Examiner states, "One of ordinary skill in the art . . . would have been *motivated by a reasonable expectation of success* . . . ." Office Action at p. 6 (emphasis added). Applicants respectfully submit that one

requirement does not provide for the other; rather, they are separate requirements, both of which must be shown by the Examiner.

In the present case, the Examiner has not individually demonstrated either of the requirements. The Examiner has pointed to nothing in Maag that would have led one of ordinary skill in the art to select silicone (meth)acrylates from among the variety of prepolymers and oligomers disclosed in the reference. The Examiner has also pointed to nothing in Maag that would have led to the requisite expectation of success for making this modification. Applicants respectfully submit that the Examiner would be unable to do so, since Maag provides neither the motivation nor the expectation of success for making the modification suggested by the Examiner. Thus, the Examiner has not established *prima facie* obviousness.

With respect to claims 40-41 and 59-61, the Examiner has not provided any objective support for the belief that “the properties set forth [in the claims] would be expected to be provided by curing the disclosed coating compositions wherein the components employed correspond to the components instantly claimed.” Office Action at p. 6. The Examiner has not pointed to anything in the Maag reference that would indicate that the Maag composition including a silicone (meth)acrylate would yield the same properties set forth in Applicants’ claims 40-41 and 59-61.

**B. Maag In View of Wilt**

The Examiner rejected claims 12-16 as obvious over Maag for the reasons provided in rejecting claims 1-11, 17-20, 34-37, 45, and 59-61, and further in view of Wilt. The Examiner asserts that one of ordinary skill in the art would have found it obvious “to employ a thermally curable polysiloxane disclosed by Wilt et al as



component (A) in the compositions disclosed by Maag et al.” Office Action at p. 7. The Examiner states that Maag “provide[s] motivation by teaching that numerous different kinds of thermally curable binders are suitable in the disclosed compositions.” However, the Examiner has failed to consider the entire Maag reference, which does not provide the necessary motivation to combine Wilt’s polysiloxane with Maag’s composition. M.P.E.P. § 2141.03 (requiring consideration of the entire reference). In fact, Maag teaches away from the Examiner’s combination of references.

Maag recites strict requirements for each component in Maag’s system A) and system B). Maag teaches that component (A) “contains substantially no free-radically polymerisable double bonds and substantially no groups capable of reacting in another way with free-radically polymerisable double bonds of a system B).” Abstract. In the specification, Maag specifically defines the phrase, “contains substantially no free-radically polymerisable double bonds and substantially no groups capable of reacting with free-radically polymerisable double bonds of system B)” to mean that “system A) [*i.e.*, component (A)] contains *no free-radically polymerisable double bonds* nor any groups capable of reacting in another way with free-radically polymerisable double bonds of system B).” Col. 2, lines 59-67 (emphasis added).

Wilt’s polysiloxanes, for example, comprise the group R<sub>a</sub>, which Wilt defines as containing the moiety R<sub>1</sub>-O-X, wherein R<sub>1</sub> is alkylene, oxyalkylene, or alkylene aryl. See Wilt, col 2., lines 15-39 and claims 1-9. Thus, Wilt’s polysiloxanes could not satisfy Maag’s requirements at least because those polysiloxanes would contain at least one free-radically polymerisable double bond. Thus, contrary to the Examiner’s assertions,

Maag fails to provide the necessary motivation, and in fact, teaches away from the Examiner's combination.

**C. Maag In View of Bilkadi**

The Examiner rejected claims 21-33 as obvious over Maag for the reasons provided in rejecting claims 1-11, 17-20, 34-37, 45, and 59-61, and further in view of Bilkadi. The Examiner states that Bilkadi discloses "abrasion resistant coatings comprising diethylenically unsaturated materials, such as acrylated siloxanes, and colloidal silica particles surface treated by reaction with ethylenically unsaturated monomers." Office Action at p. 7.

The Examiner asserts that one of ordinary skill in the art at the time of the invention would have found it obvious "to employ the silicon dioxide dispersions taught by Bilkadi as transparent extenders in the coating compositions disclosed by Maag et al." Office Action at p. 8. For support, the Examiner asserts that the skilled artisan would have been motivated "by a reasonable expectation of successfully providing a transparent extender, as taught by Maag." *Id.* As previously noted, the Examiner must demonstrate *both* motivation *and* a reasonable expectation of success—one cannot provide for the other. Here, the Examiner has provided for neither. For at least this reason, the Examiner has not established *prima facie* obviousness.

Additionally, as recognized by the Examiner, Maag does not disclose any specific materials or particle sizes. *Id.* at page 7. Therefore, Maag cannot provide the necessary motivation to select Applicants' specific particles from all the possible pigments or extenders. Bilkadi does not remedy this deficiency. The Bilkadi disclosure is directed to a composition, which is cured by exposure to radiation. In fact, the Bilkadi

disclosure teaches away from compositions that are thermally cured by stating that “thermally cured protective coatings are not desirable for plastic substrates . . . .”

Bilkadi at col. 1, lines 51-53. Applicants' composition recited in claim 1, upon which claims 21-33 are dependent, either directly or indirectly, requires at least one second material comprising at least one thermally curable reactive functional group.

For at least the reasons provided above, Applicants respectfully request withdrawal of these § 103 rejections.

**VI. Rejection for Double Patenting**

The Examiner has rejected claims 1-41, 45, and 59-61 under the judicially-created doctrine of obviousness-type double patenting as being unpatentable over claims 1-61 of United States Patent No. 6,387,519 (“the ‘519 patent”). The Examiner acknowledges that the claims are not identical. Office Action at p. 8. Moreover, the Examiner recognizes the ‘519 patent does not teach “a component having radiation curable functional groups selected from the functional groups set forth in the claims in order to provide a composition curable by exposure to radiation and thermal energy as set forth in the claims.” *Id.* at pp. 8-9. However, the Examiner believes it would have been obvious to the skilled artisan to include such a component into the claims of the ‘519 patent. Applicants respectfully disagree.

A double patenting rejection of the obviousness-type is “analogous to [a failure to meet] the nonobviousness requirement of 35 U.S.C. 103.” M.P.E.P. § 804(II)(B)(1) (quoting *In re Braithwaite*, 379 F.2d 594 (C.C.P.A. 1974)). Thus, the basic criteria necessary to establish prima facie obviousness applies with equal force here. A significant difference in analysis does exist, however. Unlike the traditional § 103

analysis, which involves a comparison between the entire prior art reference and the pending claims, a double patenting rejection “must rely on a comparison with the claims in an issued patent.” M.P.E.P. § 804(III).

In the present case, the Examiner has not pointed to anything other than the subjective belief supporting that one of ordinary skill in the art would have found it obvious to include a component having a radiation curable functional groups to provide a composition curable by exposure to radiation and thermal energy. The Examiner has not made clear “why a person of ordinary skill in the art would conclude that the invention defined in the claim in issue is an obvious variation of the invention defined in the claim in the patent.” M.P.E.P. § 804(II)(B)(1). In fact, nothing in the claims of the ‘519 patent would support the Examiner’s position set forth in the rejection. Having failed to meet the required showing of obviousness-type double patenting, Applicants respectfully request the withdrawal of this rejection.

## **VII. Document Request**

Finally, the Examiner requested that Applicants provide additional copies of the foreign patent documents and the non-patent literature documents that were originally submitted in an Information Disclosure Statement filed December 29, 2000. These documents were previously considered by Examiner Paulraj, as indicated by the initialed and signed Forms PTO-1449, pages 10-15, returned with the Office Action dated October 3, 2002.

For the Examiner’s convenience, additional copies of these documents are enclosed herewith, as well as a copy of the originally filed Forms PTO-1449. Further to this resubmission, Applicants request that the Examiner indicate that these documents

were again considered. Since the original Information Disclosure Statement was previously filed and considered, no additional fee for further consideration of these documents is deemed appropriate.

**CONCLUSION**

For at least the reasons provided above, Applicants respectfully request reconsideration of the application, and the timely allowance of all pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our Deposit Account No. 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,  
GARRETT & DUNNER, L.L.P.

Dated: September 20, 2004

By:   
Mark D. Sweet  
Reg. No. 41,469